HR-262 Signing on Very Low Volume Rural Roads

Key Words: Rural roads, Signing, Traffic control

ABSTRACT:

Research was undertaken to define an appropriate level of use of traffic control devices on rural secondary roads that carry very low traffic volumes. The goal of this research was to improve the safety and efficiency of travel on the rural secondary road system. This goal was to be accomplished by providing County Engineers with guidance concerning the cost effective use of traffic control devices on very low volume rural roads. A further objective was to define the range of traffic volumes on the roads for which the recommendations would be appropriate.

Little previous research has been directed toward roads that carry very low traffic volumes. Consequently, the factual input for this research was developed by conducting an inventory of the signs and markings actually in use on 2,069 miles of rural road in Iowa. Most of these roads carried 15 or fewer vehicles per day. Additional input was provided by a survey of the opinions of County Engineers and Supervisors in Iowa.

Data from both the inventory and the opinion survey indicated a considerable lack of uniformity in the application of signs on very low volume rural roads. The number of warning signs installed varied from 0.24 per mile to 3.85 per mile in the 21 counties in which the inventory was carried out. The use of specific signs not only varied quite widely among counties but also indicated a lack of uniform application within counties.

County officials generally favored varying the elaborateness of signing depending upon the type of surface and the volume of traffic on different roads. Less elaborate signing would be installed on an unpaved road than on a paved road. A consensus opinion was that roads carrying fewer than 25 vehicles per day should have fewer signs than roads carrying higher volumes. Although roads carrying 0 to 24 vehicles per day constituted over 24% of the total rural secondary system, they carried less than 3% of the total travel on that system. Virtually all of these roads are classified as area service roads and would thus be expected to carry only short trips primarily by local motorists.

Consequently, it was concluded that the need for warning signs rarely can be demonstrated on unpaved rural roads with traffic volumes of fewer than 25 vehicles per day. It is recommended that each county designate a portion of its roads as an Area Service Level B system. All road segments with very low traffic volumes should be considered for inclusion in this system. Roads included in this system may

receive a lesser level of maintenance and a reduced level of signing.

The county is also afforded protection from liability arising from accidents occurring on roads designated as part of an Area Service Level B system. A uniform absence of warning signs on roads of this nature is not expected to have any discernible effect on the safety or quality of service on these very low volume roads. The resources conserved may be expended more effectively to upgrade maintenance and traffic control on roads carrying higher volumes where the beneficial effect on highway safety and service will be much more consequential.